# 

		DE A	<u>INAL Y</u>	<u> </u>	<u> </u>	
	nternational Building Conternational Mechanica nternational Plumbing Conternational Fire Code nternational Energy Conservation Code	Year ode 2006 I Code 2006	National E Uniform C Building C ADA Acce	Electrical Co Code for Conservation essibility	de	Year 2005
Α.	Occupancy and Grou	ıp: <u>EXISTI</u> NG	<u>MAINTE</u> NANCE	GARAGE		
	Change in Use: Yes Special Use and Occ		=	=		) <u>X</u>
В.	Seismic Design Cate	gory:D	Design Wind S	Speed:9	<u>0</u> mph	
C.	Type of Construction	(circle one):				
	$\frac{I}{A}$ $\frac{I}{B}$	<u>П</u> В	<u>Ш</u> В	HT A	$\frac{\nabla}{B}$	)
D.	Fire Resistance Ration separation distance (	(in hours):			d on the f	ïre
E.	Mixed Occupancies:	N/A No	nseparated Uses	s: <u>N/A</u>		
F:	Sprinklers:					
	Required: N/A	Provided: N/A	_ Type of Sprinl	kler System:	N/A	
G:	Number of Stories:	1 Building	g Height: <u>20'</u>			
H:	Actual Area per Flo	or (square feet): _	2400			
l:	Tabular Area: <u>9000</u>					
J:	Area Modifications:	N/A				
K.	Fire Resistance Rati	ing Requirements	for Building Elen	nents (hours)	).	
E	lement	Hours Assembly Listing	Element		Hours	Assemb Listing
In E: S: P:	xterior Bearing Walls terior Bearing Walls xterior Non-Bearing Walls tructural Frame artitions - Permanent ire Barriers	0 0 0 0 0 0	0 Roofs - Ceiling Roofs 0 Exterior Doors and Windo 0 Shaft Enclosures 0 Fire Walls			
L.	Design Occupant Loa Exit Width Required:		Exit Width Provide	ed: <u>2</u>		
M.	Minimum Number of  a) Water Closets - I  b) Lavatories - Re  c) Bath Tubs or Sho  d) Drinking Fountai	Required (m) quired1	(f) F	Provided Provided		I
FO(	OTNOTES:  In case of conflict with through <b>∑</b> - ADA Guide Code Accessibility Cha	elines and specifi	c reference to the	e Internationa	al Buildin	
2)	Additional Code Inform Official for Complex But a) High Rise Requible Atriums.  c) Performance Based Means or Egress e) Fire Assembly Left Exterior and Intergy Fire Stopping, In	uildings. Including rements. sed Criteria. s Analysis. ocator Sheet.	, but not limited to		Building	

# DRAPER PRISON ADMIN./ ACADEMY BLDG. IMPROVEMENTS DFCM # 06139100



State of Utah—Department of Administrative Services

## DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building / Salt Lake City, Utah 84114 / 538-3018

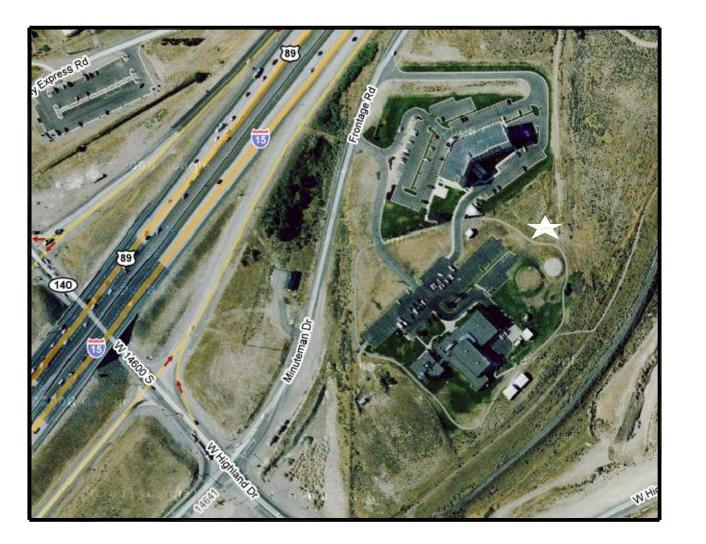
### DRAWING INDEX:

M000 - TITLE SHEET

MG001- MECHANICAL LEGEND AND GENERAL NOTES

ME101- MECHANICAL AND PLUMBING FLOOR PLAN ME501- MECHANICAL DETAILS

ME502- MECHANICAL DETAILS ME601- MECHANICAL SCHEDULES



MECHANICAL ENGINEER WHW ENGINEERING, INC. 8619 SANDY PARKWAY SUITE 101 SANDY, UTAH 84075 PHONE: (801) 466-4021 FAX: (801) 466-8536





		1		N	MECHANICAL LEGEND			3
SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION
		GENERAL TERMINOLOGY			AIR SIDE			WET SIDE
(10)		DETAIL NUMBER DESIGNATION	Ţ		EXISTING AIR DUCT TO BE REMOVED			PUMP
(A2)		CORRESPONDING WITH GRID LOCATION	<b>├ ├</b>		EXISTING AIR DUCT TO REMAIN	R		REGULATOR
MA		MECHANICAL EQUIPMENT DESIGNATION	₩ 🖶		NEW AIR DUCT	<u> </u>		UNION
1		EQUIPMENT ITEM DESIGNATION	<b>₩</b>		NEW SPIRAL DUCT	<b>—</b> Г—		BUTTERFLY VALVE
D-1		REGISTER, GRILL OR DIFFUSER	<b>├  </b>		NEW MEDIUM PRESSURE DUCT	$ \nearrow$ $-$		GATE VALVE
CFM	<u> </u>	DESIGNATION WITH BALANCING CFM LISTED BELOW	<b>├</b>		BURIED OR UNDER FLOOR DUCT	—ф—	BV	BALL VALVE
		GRILLE, OR LOUVER DESIGNATION WHERE	Ky SON		FLEXIBLE AIR DUCT	-		BURNER
R-1		BALANCING NOT REQUIRE			LINED DUCT	0		ELBOW UP
1		REVISION DESIGNATOR AND NUMBER			VANED ELBOW	C		ELBOW DOWN
1		KEY NOTE DESIGNATOR AND NUMBER			RADIUS ELBOW	<u> </u>		TEE UP
•	POC	POINT OF CONNECTION	<b>—</b>		FLEXIBLE AIR DUCT CONNECTION			TEE DOWN
	POR	POINT OF REMOVAL	√D		VOLUME DAMPER			EXISTING PIPING TO BE REMOVED
GC		GENERAL CONTRACTOR	$\boxtimes$		SUPPLY AIR DIFFUSER			EXISTING PIPING TO REMAIN
МС		MECHANICAL CONTRACTOR			RETURN AIR, FRESH AIR, AND TRANSFER AIR			NEW PIPING
ATC		CONTROL CONTRACTOR	⊠		CEILING MOUNTED EXHAUST FAN OR EXHAUST GRILLE			PIPE CAP OR PLUG
EC		ELECTRICAL CONTRACTOR			RETURN OR OUTSIDE AIR DUCT UP			FLEXIBLE CONNECTION
FPC		FIRE PROTECTION CONTROL			SUPPLY DUCT UP		cw	CULINARY COLD WATER
NIC		NOT IN CONTRACT			EXHAUST AIR INTAKE UP		HW	CULINARY HOT WATER
NTS		NOT TO SCALE	₩ 🗖		RETURN OR OUTSIDE AIR DUCT DOWN			RECIRCULATED CULINARY HOT WATER
С		COMMON	₩ 🖂		SUPPLY DUCT DOWN		•	
NC		NORMALLY CLOSED	₩ 🖽		EXHAUST DUCT DOWN			
NO		NORMALLY OPEN			ROUND DUCT UP			
	-		₩ <b>₩</b>		ROUND DUCT DOWN			
					EXISTING EQUIPMENT TO REMAIN			

**NEW EQUIPMENT** 

**SUPPLY AIR** 

**RETURN AIR** 

**EXHAUST AIR** 

**OUTSIDE AIR** 

MIXED AIR

FRESH AIR

RELIEF AIR

RTŬ-1

EΑ

OA

WALL MOUNTED THERMOSTAT

MECHANICAL EQUIPMENT CONTROLLED

PLUMBING LEGEND									
MEANING	SYMBOL OR ABBREVIATION	MEANING	SYMBOL OR ABBREVIATION						
HOT WATER LINE		WALL CLEANOUT	wco						
COLD WATER LINE	<u> </u>	CLEANOUT	со						
HOT WATER RECIRCULATING LINE		CLEANOUT TO GRADE	COTG						
VENT LINE		FLOOR CLEANOUT	FCO						
WASTE LINE		BALL VALVE	Ф						
GAS LINE		UNION	<b></b>   <b></b>						
VENT THRU ROOF	VTR	CONNECTION TO EXISTING PIPING	•						
UNDER FLOOR	UF	REGULATOR	R						

**GENERAL NOTES:** 

G-1 MECHANICAL INFORMATION IS NOT LIMITED TO THE MECHANICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING DRAWINGS BY OTHER DISCIPLINES AND SPECIFICATIONS.

> A - EACH DRAWING SHEET AND THE SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH ITEMS SHOWN AND NOTED ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN ALL PLACES. ITEMS IN SPECIFICATIONS OR DRAWINGS LISTED WHICH ARE DIFFERING IN EFFICIENCY OR QUALITY SHALL BE HELD TO THE GREATEST OF: EFFICIENCY, QUALITY OR GOVERNING CODE.

> B - THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEMS ACCORDING TO THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS.

> C - THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITH PROPER SERVICE ACCESS AND CLEARANCES ACCORDING TO MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL REVIEW SUPPLIERS BID PACKAGES FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS, SCHEDULES, AND DESIGN INTENT (ALL EQUIPMENT AND METHODS). THE CONTRACTOR SHALL REMOVE AND REINSTALL CORRECTLY AT HIS OWN EXPENSE ANY EQUIPMENT NOT IN COMPLIANCE.

D - THE CONTRACTOR SHALL CONSULT MANUFACTURERS INSTALLATION INSTRUCTIONS FOR SIZES, METHODS, ACCESSORIES, AND CLEARANCES IN SPACE AVAILABLE PRIOR TO BIDDING PROJECT.

E - ANYTHING NOT CLEAR OR IN CONFLICT WILL BE EXPLAINED BY MAKING APPLICATION TO THE ENGINEER IN WRITING.

- G-2 ANY AND ALL ALTERATIONS TO THE SYSTEM SHOWN SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO CHANGES FOR APPROVAL. CONTRACTOR SHALL NOT START ANY CHANGES UNTIL NOTIFIED IN WRITING. IF CHANGES ARE MADE PRIOR TO APPROVAL CONTRACTOR SHALL TAKE ALL RESPONSIBILITY FOR THE CHANGES MADE AND ALL COSTS RELATING TO FAILURE OR REPLACEMENT OF ALTERATIONS.
- G-3 CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATIONS.
- G-4 THE WORKING DRAWINGS ARE DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND, OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR MECHANICAL EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL DRAWINGS. THE CONTRACTOR SHALL PROVIDE OR COORDINATE WITH THE GENERAL CONTRACTOR PROVISIONS FOR BLOCKOUTS OR CORE DRILLS THROUGH STRUCTURE.
- G-5 THE INSTRUCTION TO "PROVIDE" ALSO INCLUDES INSTALLATION.
- G-6 MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL SMOKE AND FIRE DAMPERS AS REQUIRED BY LOCAL CODES AND AUTHORITIES.
- G-7 SHEET METAL DUCT SIZES SHOWN ON DRAWINGS ARE FREE AREA DIMENSIONS.
- G-8 PROVIDE AND INSTALL BALANCING DAMPERS IN ALL SUPPLY AND EXHAUST AIR BRANCH DUCTS. BALANCE TO CFM SHOWN ON PLAN.
- G-9 SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR **EXACT LOCATION OF DIFFUSERS AND GRILLES.**
- G-10 PROVIDE TURNING VANES IN ALL ELBOWS OF RECTANGULAR DUCT.
- G-11 THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY IN HANDLING AND DISPOSING OF REFRIGERANTS, OILS, ETC. ALL SUCH MATERIALS SHALL BE HANDLED, DISPOSED, AND USED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS.
- G-12 THE MECHANICAL CONTRACTOR SHALL VERIFY MOTOR VOLTAGES WITH THE ELECTRICAL DRAWING BEFORE ORDERING MOTORIZED EQUIPMENT AND CONTROLS.
- G-13 C.F.M. LISTED IS ACTUAL AIR.
- G-14 SUPPLIERS SHALL REVIEW ALL DRAWINGS AND THE SPECIFICATIONS PRIOR TO SUBMITTING PRICES TO THE CONTRACTOR. ALL QUESTIONS AND DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BIDDING.

G-15 CONTRACTOR SHALL THOROUGHLY REVIEW AND SIGN SUBMITTALS FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS PRIOR TO ENGINEERS REVIEW. SUPPLIERS SHALL HIGHLIGHT OR MARK ALL INFORMATION REQUIRED TO SHOW COMPLIANCE TO THE SPECIFICATIONS. ALL REQUESTED EXCEPTIONS TO THE SPECIFICATIONS, OR SCHEDULES SHALL BE CLEARLY NOTED AND EXPLAINED. SUBMITTAL REVIEW AND ACCEPTANCE IS FOR DESIGN CONCEPT ONLY, AND DOES NOT AT ANY TIME RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO MEET SPECIFICATIONS, CAPACITIES. OR DESIGN INTENT.

- G-16 ALL MECHANICAL SHALL BE INSTALLED AND CONFORM TO THE 2006 EDITION OF THE IMC WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS.
- G-17 THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE DRAINING DOWN AND RE-FILLING OF ALL SYSTEMS NECESSARY TO COMPLETE THE WORK OUTLINED BY THIS PROJECT. THIS INCLUDES PROVIDING THE REQUIRED CHEMICAL TREATMENT WHEN RE-FILLING THE SYSTEM.
- G-18 THIS CONTRACTOR SHALL CONTRACT WITH A DESIGN BUILD ELECTRICAL CONTRACTOR FOR THE DESIGN AND CONSTRUCTION OF THE ELECTRICAL PORTION OF THIS PROJECT. ELECTRICAL INSTALLATION AND DESIGN SHALL BE PER 2005 NEC.
- G-19 ALL PIPING, MATERIALS, ETC. SHALL BE NEW AND DOMESTIC MADE UNLESS SPECIFICALLY AUTHORIZED IN WRITING PRIOR TO BID.
- G-20 ALL PLUMBING SHALL BE INSTALLED AND CONFORM TO THE 2006 EDITION OF THE INTERNATIONAL PLUMBING CODE (IPC) WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS.
- G-21 ALL PIPING MATERIALS SHALL MEET ALL REQUIREMENTS OF IPC AND LOCAL AUTHORITY. PLASTIC PIPING SHALL BE ALLOWED ONLY WHERE ALLOWED BY CODE. PLASTIC PIPING SHALL NOT BE ROUTED THROUGH RETURN AIR PLENUMS OR OTHER AREAS PROHIBITED BY THE IMC, IPC OR NFPA CODES OR BY LOCAL AUTHORITY
- G-22 GAS PIPING INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH GAS COMPANY REGULATIONS, NFPA CODE REQUIREMENTS, AND LOCAL AUTHORITY.
- G-23 PROVIDE VACUUM BREAKERS AND BACK FLOW PREVENTERS WHERE REQUIRED BY CODE OR WHERE THERE MAY BE ANY POSSIBLE CHANCE FOR CROSS CONTAMINATION. PREVENTERS SHALL BE INSTALLED IN ACCORDANCE WITH UTAH CODE.
- G-24 COORDINATE ALL PIPING AND PLUMBING EQUIPMENT WITH ALL OTHER TRADES AND/OR CONTRACTORS PRIOR TO INSTALLATION.
- G-25 GAS LINE FITTINGS SHALL BE STANDARD WELD FITTINGS WITH TAPERED REDUCERS. DO NOT USE VALVES, UNIONS, OR AUTO CONTROLS IN GAS LINES ROUTED IN INACCESSIBLE CONCEALED SPACES.
- G-26 ALL WATER SYSTEMS SHALL MEET THE REQUIREMENTS OF ANSI/NSF STANDARD 61 SECTION 9 (1998). CONCERNING METAL CONTAMINANTS IN THE WATER
- G-27 WATER PIPING SHALL NOT BE ROUTED IN OUTSIDE WALLS OR ON EXTERIOR SIDE OF BUILDING INSULATION ENVELOPE.

State of Utah Department of Administrative Services



Division of Facilities Construction & Management 4110 State Office Building Salt Lake City, Utah 84114 Phone: (801) 538 - 3018 Fax: (801) 538 - 3267

Internet: http://dfcm.utah.gov



WHW ENGINEERING INC. PROFESSIONAL MECHANICAL ENGINEERING

8619 Sandy Parkway Suite 101 SANDY, UTAH 84070 (801)466-4021, FAX 466-8536

**BUILDING NAME:** 

PROJECT # 06139100 DRAPER PRISON MAINTENANCE BUILDING **HVAC ADDITION** 

PROJECT TITLE:

DRAPER PRISON MAINTENANCE BUILDING **HVAC ADDITION** 



MARK DATE DESCRIPTION ISSUE TYPE: BID SET

ISSUE DATE: OCT 23, 2008

DFCM PROJECT NO: 06139100 CAD PROJECT NO: -CAD DWG FILE: DRAWN BY: STAFF CHK'D BY: WP COPYRIGHT: STATE OF UTAH

SHEET TITLE

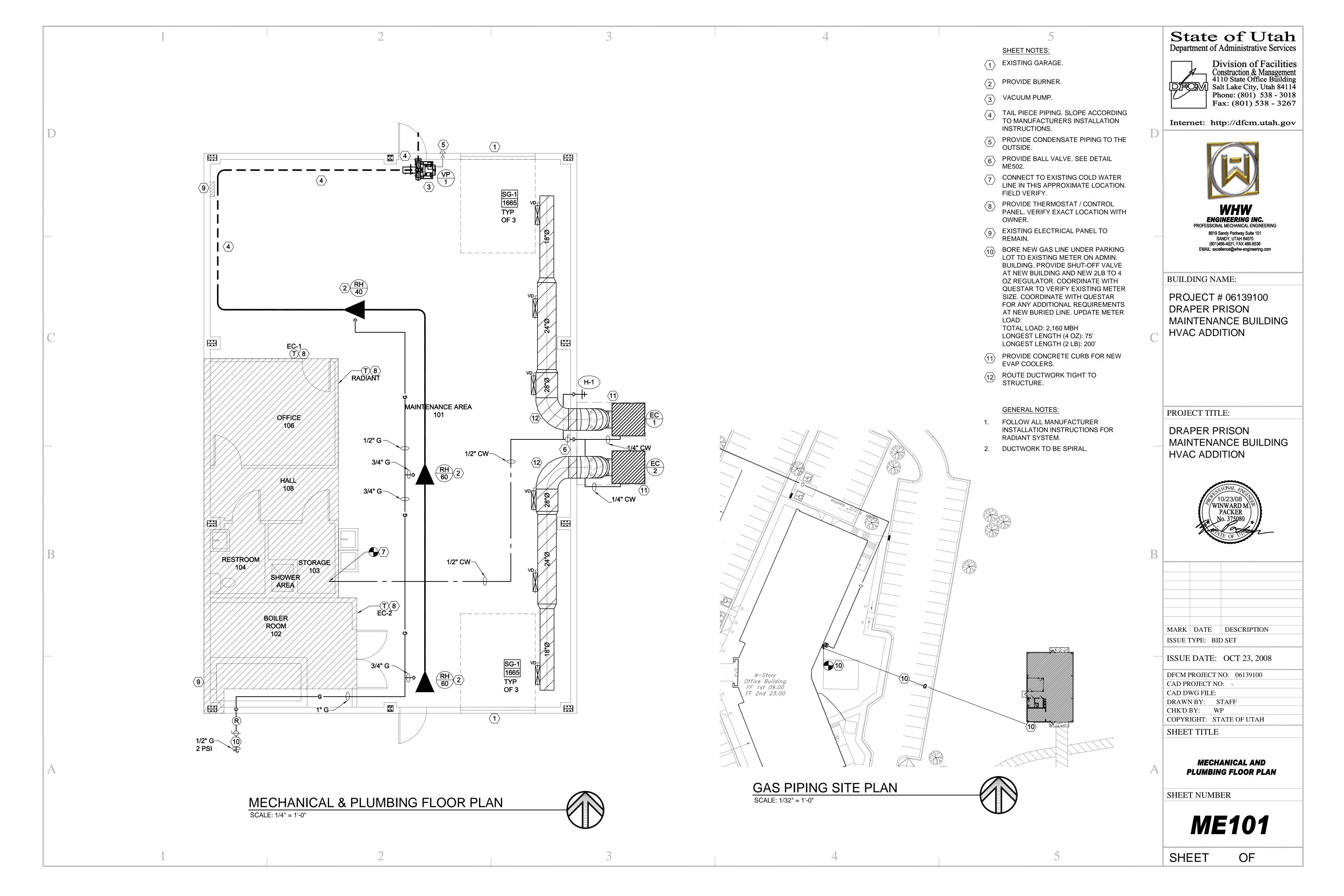
MECHANICAL AND PLUMBING LEGENDS AND **GENERAL NOTES** 

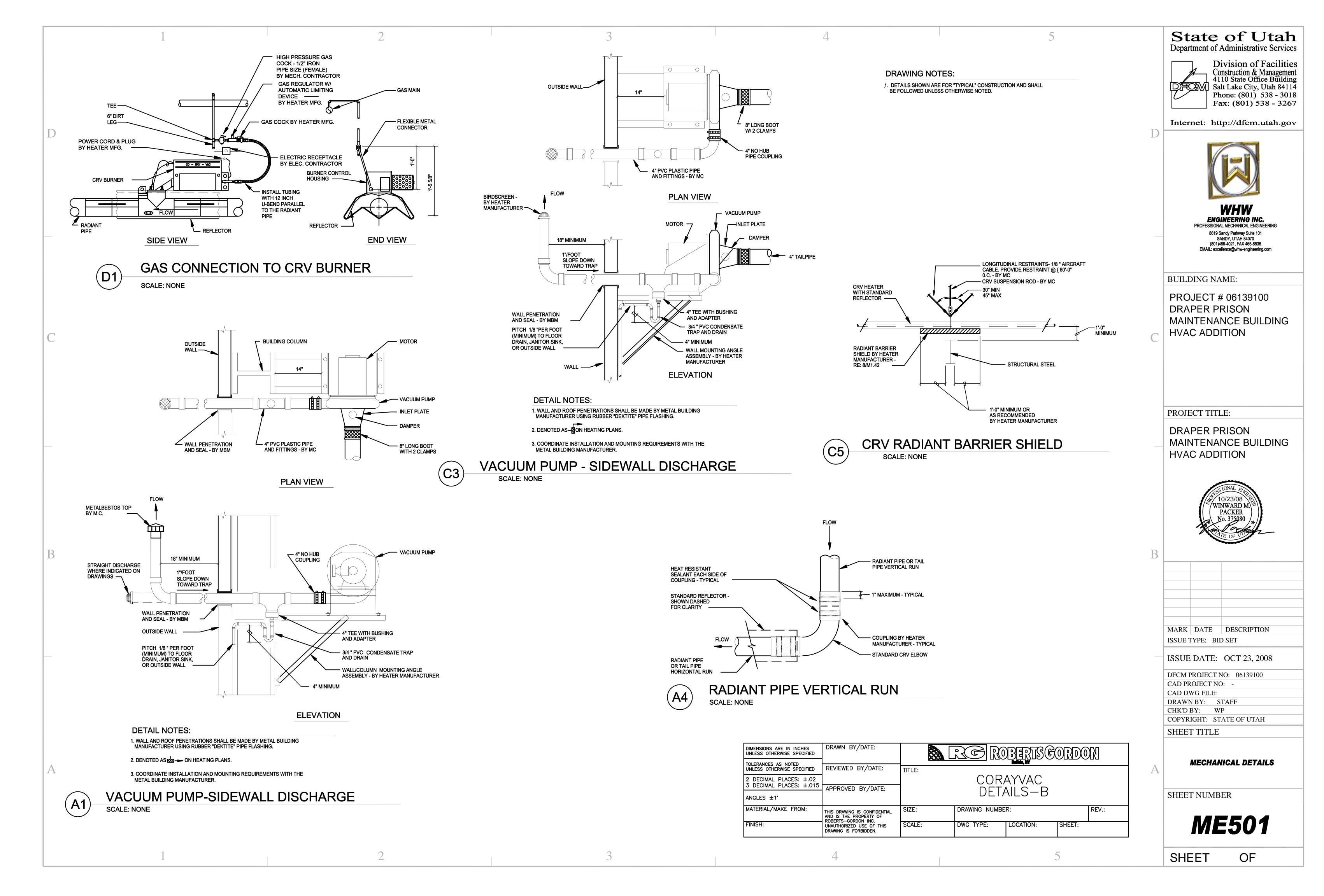
SHEET NUMBER

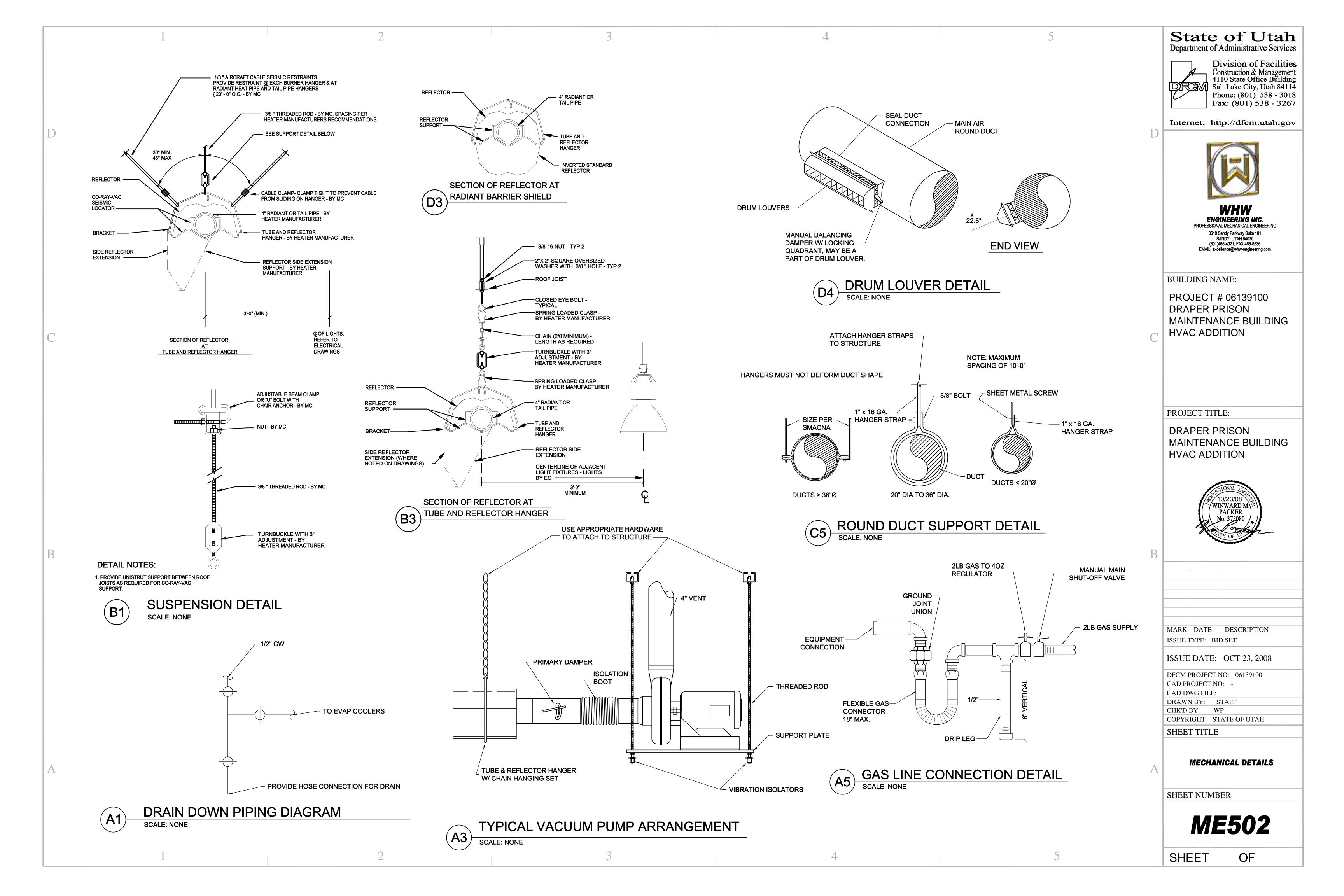
**MG001** 

SHEET

OF







	1	2	3	
				SYMBOL
D				RH 40
				(RH) (60) (VP) 1
				1. PROVIDE WITH
				2. RADIANT PIPE ALUMINUM REFLE 3. 4" EXHAUST TE
				4. PROVIDE WITH
				SYMBOL         W         Ø           EC         73         1
				EC 73 1
				SY
				1. M 2. F
				3. [
В				
				SYMBOL F
				H-1 HY
A				
	1	2	3	

RADIANT HEATER SCHEDULE											
0)/4/00/	BTUH BURNER	DECODIDEN		ELECTRICAL	-						
SYMBOL		DESCRIPTION	HP	V	AMPS	MANUFACTURER	NOTES				
RH 40	40,000	BURNER	-	120	0.3	ROBERTS-GORDON	2				
RH 60	60,000	BURNER	-	120	0.3	ROBERTS-GORDON	2				
VP 1	N/A	VACUUM PUMP	3/4	120 6.6		ROBERTS-GORDON	1,3,4				

- /ITH CONTROL PANEL AND THERMOSTAT PER BRANCH AS SHOWN ON DRAWINGS.
- IPE SHALL BE 4" HEAT TREATED ALUMINIZED TUBING AND TAILPIPE SHALL BE 4" PORCELAIN COATED TUBING, FLECTORS, HANGERS TUBE COUPLINGS.
- TERMINATION. REUSE EXISTING PENETRATIONS THROUGH STRUCTURE.
- ITH THERMOSTAT (55° 85° RANGE).

### **EVAPORATIVE COOLER SCHEDULE**

CVMPOL	PUMP				CEM	EXTERNAL	ROOF OR WALL	FAN					MAKE & MODEL	
SYMBOL	W	Ø	HERTZ	VOLTS	CFM	SP	OPENING	HP	PHASE	HERTZ	VOLT	SPEED	MAKE & MODEL	
EC 1	73	1	60	230	5000	0.3	WALL	1	1	60	230	2	85 SD	
EC 2	73	1	60	230	5000	0.3	WALL	1	1	60	230	2	85 SD	

DIFFUSER SCHEDULE										
SYMBOL	TYPE	MAX CFM	FACE SIZE	NECK SIZE	CEILING TYPE	BLOW	PATTERN	SCHEDULE NOTES		
SD-1 CFM	DUCT MOUNTED	2000	32X12	32X12	N/A	1-WAY		1,2,3		

- . MAXIMUM NC 25 AT CFM LISTED.
- . PROVIDE TRANSITION TO DIFFUSER NECK SIZE AS REQUIRED TO DUCT WORK SHOWN ON PLAN.
- . DIFFUSER SHALL BE PRICE MODEL ARDR OR EQUAL BY APPROVED MANUFACTURER IN SPECIFICATIONS.

### PLUMBING FIXTURE SCHEDULE

		I					
SYMBOL	FIXTURE		INDIV	REMARKS			
		TRAP	WASTE	VENT	COLD WATER	HOT WATER	
H-1	HYDRANT	-	-	-	1/2"	-	KEYED. FREEZE PROOF.

# State of Utah

Department of Administrative Services



Division of Facilities Construction & Management 4110 State Office Building Salt Lake City, Utah 84114 Phone: (801) 538 - 3018 Fax: (801) 538 - 3267

Internet: http://dfcm.utah.gov



WHW
ENGINEERING INC.
PROFESSIONAL MECHANICAL ENGINEERING

SANDY, UTAH 84070 (801)466-4021, FAX 466-8536 EMAIL: excellence@whw-engineering.com

BUILDING NAME:

PROJECT # 06139100 DRAPER PRISON MAINTENANCE BUILDING **HVAC ADDITION** 

PROJECT TITLE:

DRAPER PRISON MAINTENANCE BUILDING **HVAC ADDITION** 



MARK DATE DESCRIPTION ISSUE TYPE: BID SET

ISSUE DATE: OCT 23, 2008

DFCM PROJECT NO: 06139100 CAD PROJECT NO: -CAD DWG FILE: DRAWN BY: STAFF CHK'D BY: WP COPYRIGHT: STATE OF UTAH

SHEET TITLE

**MECHANICAL SCHEDULES** 

SHEET NUMBER

**ME601** 

SHEET OF